RESEARCH PROBLEM STATEMENT #MA-602

I – Problem Title
Errant motorists' intrusions into highway workzones.

II – Research Problem Statement
A better understanding of why motorists intrude into highway work zones is needed along with reliable, deployable countermeasures which will modify driver behavior, resulting in a reduction in accidents.

III – Objective
Evaluate factors influencing driver behavior at work zones and develop appropriate countermeasures. The research will:

1. Analyze and identify causation factors as to why work zone intrusion occurs.
2. Explore application of ITS for work zones (e.g., speed detection and immediate feedback to driver).
3. Evaluate enforcement strategies for work zones (e.g. portable double-fine message, cameras tracking work zone intrusions, more aggressive speed enforcement at work zones)
4. Provide cost/benefit information regarding methods, devices, or process improvements, identifying those which would provide the best "bang for the buck."

IV – Background
Work zone intrusions by errant motorists have caused many serious and fatal injuries to highway workers not only in California, but nationwide. While the use of work zone intrusion detection and warning devices (and related technology) have been explored, very little research into preventing accidents by modifying driver behavior through the use of ITS technology has been performed.

V – Estimate of Duration of Research
18 months

VI - Statement of Urgency and Benefits
This research is important and it is in the best interest of the department to reduce work zone accidents which can result in injuries or fatalities.

VII – Related Research
1. Determination of most common work zone intrusion accidents and their consequences
2. Literature search of existing deployable devices/procedures

VIII – Deployment Potential
Very high. The products from this research can be adopted by the Department both in Maintenance and highway construction work zones.